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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,216	04/16/2004	Leonid Rappoport	PMR-105	1176

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LUMEN INTELLECTUAL PROPERTY SERVICES, INC.  
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EXAMINER
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ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/826,216

Applicant(s)

RAPPOPORT ET AL.

Examiner

Jeffrey B. Robertson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-10 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 22 is/are allowed.
- 6) ☒ Claim(s) 7, 8, 10, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For claim 21, there does not appear to be support in the specification for the limitations "and less than equal to 150°C, or greater than or equal to 120° C and less than or equal to 150° C". The specification does not set forth 150° C as a temperature for the reaction of disulfides with dicarboxylic acids. On page 11, line 30, the specification identifies 150°C for the reaction of extended monomers with isocyanates. This temperature is not identified as being suitable for reaction of disulfides with dicarboxylic acids. Therefore, the addition of this limitation to the claim is new matter.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 7, 8, 10, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (U.S. Patent No. 5,342,724) in view of Richter et al. (U.S. Patent No. 2,582,605).

Wilson teaches the preparation of compositions including condensation products of disulfide containing diols and diacids to form polyesters. See col. 4, lines 10-20. In column 7, lines 3-20, Wilson teaches disulfide containing diol including

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bis(hydroxypropyl) disulfide. For claim 21, Wilson teaches that the esterification reaction takes place at 180 degrees C. Col. 3, line 67. Regarding the limitation of "less than 180° C" in the claim. The examiner's position is that the difference in temperature between 180° C and less than 180°C (such as 179.9° C) are so close that one of ordinary skill in the art would not have expected a difference in properties. Therefore, this limitation would have been obvious to one of ordinary skill in the art at the time of the invention.

For claims 7, 20, and 21, Wilson does not teach bis(hydroxyethyl) disulfide. Richter teaches that beta-hydroxyethyl sulfides have unusually reactive hydroxyl groups and readily react with compounds containing hydroxyl groups. Col. 1, line 24 through col. 2, line 11. It would have been obvious to one of ordinary skill in the art at the time of the invention to use bis(hydroxyethyl) disulfide as the disulfide containing diols of Wilson. The motivation would have been that one of ordinary skill in the art would have taken advantage of the unusual reactivity of the beta-hydroxyethyl sulfides to more quickly and easily form the polyester products set forth by Wilson. Since the carboxylic acid groups have hydroxyl groups, one of ordinary skill in the art would have had a reasonable expectation of success that the reactivity of the beta-hydroxyethyl sulfides would be greater than the non-beta hydroxy-containing sulfides.

For claims 7, 20, and 21, in column 5, lines 60-62, Wilson teaches diacids such as adipic acid and succinic acid. The polyesters produced from the condensation reactions set forth in Wilson would appear to fall within the formulas set forth by

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applicant because the reactants used to produce the polymers as well as the conditions used to produce the polymer are the same.

In column 4, lines 5-6, Wilson teaches that the molecular weight can be varied in the polyester produced, resulting in a polymer having three or more polyester units.

Additionally, for claim 21, in column 3, lines 52-66, Wilson teaches that zinc acetate is used as a catalyst. This compound is a Lewis acid. Wilson also teaches that a polyfunctional modifier can be added in the production of the polyester. In col. 6, lines 28-29, Wilson teaches that the polyfunctional modifier is dimethylolpropionic acid.

#### ***Allowable Subject Matter***

5. Claims 9 and 22 are allowed.

#### ***Response to Arguments***

6. Applicant's arguments filed 10/31/05 have been considered but are not persuasive. Applicant argues that if bis(hydroxyethyl) disulfide was mixed with a dibasic acid under the conditions set forth by Wilson that a polythioether and not a polythioester would result. However, applicant does not provide any objective evidence such as an affidavit or declaration that polythioethers would be formed under those conditions. As a result, the examiner does not find this argument persuasive, and the above reaction has been continued.

#### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey B. Robertson  
Primary Examiner  
Art Unit 1712

JBR